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Mapping the public domain in intellectual property: Beyond the metaphor of a domain

Working Paper (June 06)

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I. INTRODUCTION

The public domain, by its very definition, is free to use by anybody. This freedom is what makes it public. It is always been seen as one key elements in the trade-off between the exclusivity conferred to individual authors and inventors and the general interest or needs of the society and of the public. Recently, scholars are begun to substitute “commons”, “intellectual commons” or “open content” to the terms of “public domain” so as to insist on the open or free use of the public domain materials and on the collective and shared nature of such use.

In the recent years, public domain has been a favourite theme for scholarly research and writing in the United States: many have denounced the “enclosure of public domain”¹ or have pleaded for its defence against undue appropriation². In Europe, the research about public domain has been scarce or is just beginning to appear³. On both sides of the Atlantic, copyright law has been mostly the field where such research has occurred.

¹ As it was first phrased by one of the seminal scholarship work about the shrinking public domain, see J. BOYLE, “The Second Enclosure Movement and the Construction of the Public Domain”, 66 *Law and Contemporary Problems* 33 (2003).

² D. LANGE, “Recognizing the Public Domain”, 44 *Law & Contemp. Probs.* 147 (1981); J. LITMAN, “The Public Domain”, 39 *Emory L.J.* 965 (1990); J. BOYLE, “A Politics of Intellectual Property: Environmentalism for the Net?”, 47 *Duke Law Journal* 87 (1997); Y. BENKLER, “Free as the air to common use : First Amendment constraints on enclosure of the public domain”, 74 *New York University Law review* 354 (1999); R. COOMBE, “Fear, Hope, and Longing for the Future of Authorship and a Revitalized Public Domain in Global Regimes of Intellectual Property”, 52 *DePaul L. Rev.*, 1171 (2002-2003), p. 1173; R. MERGES, “A new dynamism in the public domain”, 71 *Univ. Chicago L. Rev.* 183 (2004); N. OCHOA, “Origins and meanings of the public domain”, 28 *Dayton L. Rev.* 215 (2002); as well as all the contributions of the Public Domain conference, held in Duke University in 2002 and published in the Volume 66 of the Law Review *Law and Contemporary Problems* (2003); E. SAMUELS, “The Public Domain in Copyright Law”, 15 *J. Copr. Soc’y* 137 (1993); K. AOKI, “Authors, Inventors and Trademarks Owners : Private Intellectual Property and the Public Domain”, 16 *Colum.-VLA J.L. & Arts* 1, (1993).

³ DREIER T., “Balancing Proprietary and Public Domain Interests : Inside or Outside of Proprietary Rights?”, in R.C. DREYFUSS, D.L. ZIMMERMAN & H. FIRST (ed.), *Expanding the Boundaries of Intellectual Property*, Oxford University Press, 2001, p. 298-316; C. CARON, “L’irrésistible decadence du domaine public en droit de la propriété intellectuelle”, in *Etudes offertes à Jacques Dupichot*, Bruylant, 2004, p. 61-78; W. VAN CAENEGEM,

Central to most of those writings is the importance that the public domain has in a democratic society where cultural diversity and freedoms to create, to innovate and to take part to the cultural and scientific environment are fundamental objectives. A strong and vivid public domain in culture and science is a pivotal element of the common heritage of humanity and as such, it should be made available to all. It should also be preserved from undue privatisation and encroachment. Therefore, the project of improving the legal regime of the public domain, in order to enhance its availability and diversity, is worth pursuing in intellectual property. To that end, many scholars working on the public domain are considering the shrinking of the public domain due to the expansive evolution of the intellectual property and are asking for the proper dykes to be built to buttress and curb the flow of privatization that threatens the collective field of the public domain⁴.

My purpose is not to define what should be or not be in the public domain. I will not be looking at the causes of the shrinking of the public domain, or only incidentally. This paper is situated beyond the debate as to what should be patented or copyrighted, to what extent and for how long. It will not deal with the question of the determination of those limitations to intellectual property (as to the scope of the rights, the object of the protection, the adequate duration of the right, ...). Such a delineation is fundamentally a matter for policy that I will not touch upon. The question of this article is neither to address the role of public domain in science, in culture, in innovation or in the transfer of knowledge. I will take for granted that a robust public domain is crucial to achieve such key social aims, and that any intellectual property regime should integrate some avenues for granting access to works and opening content to the public.

Rather, the interrogation I will try to answer to is the following: once the content and boundaries of the public domain have been determined, what should be done with that public domain ? How should the law protect it and render it effective ? I am thus interested in the treatment that the law grants to material and resources belonging to the public domain; I will express no view on the legitimacy of its boundaries, for I will only consider the legal status granted to an element that has been put, by the law or otherwise, within the ambit of the public domain and assess whether this status, as it is now, is consistent with the view of enabling an open access and use of such public domain.

The present paper deals with the first part of the question, the “once-the-content of the public-domain-has-been-determined” part. It purports to consider *what* is in the public domain, not *why* it should be. The *how* of the public domain will also be addressed to the extent that the

“The public domain: Scientia Nullius?”, *E.I.P.R.*, 2002, p. 324; S. CHOISY, *Le domaine public en droit d’auteur*, Paris, Litec, 2002.

⁴ K. MASKUS & J. REICHMAN, “The globalization of private knowledge goods and the privatization of global public goods”, in K. MASKUS & J. REICHMAN (eds.), *International public goods and the transfer of technology under a globalized intellectual property regime*, Cambridge University Press, 2005, p. 3; G. DINWOODIE & R. COOPER DREYFUSS, “WTO dispute resolution and the preservation of the public domain of science under international law”, in K. MASKUS & J. REICHMAN (eds.), *op. cit.*, p. 861.

process of the construction of a public domain, and its evolution, may enlighten the consistence thereof. By combining the *what* and the *how*, I am aiming at making a rough description, a sort of mapping of the public domain.

When considering the substance of the public domain, one is immediately confronted with the strong rhetoric that has evolved around that notion. The public domain is a very abstract idea shaped in a very concrete territorial metaphor. The “domain” evokes a particular place, clearly bordered, almost tangible. My choice for the word “mapping” to name the description of the public domain I will carry out, is still entrapped into that territorial/geographical metaphor. In most of the writings on the public domain, the metaphor is almost taken literally: the public domain is that territory where no intellectual property rights apply, a domain where anybody is free to enter and to help herself. More than a no-rights land, it is a wasteland, a fallow land.

In order to gain an overall overview of what is the public domain, I will lift the veil of that domain-based metaphor and try to find the reality of the public domain beyond and behind it.

In a second stage, I will draft a detailed topography (the geographical metaphor again!) of the public domain. Such a depiction is not only descriptive and enumerative, it is a preliminary and necessary step to any further analysis of the politics of the public domain. There is indeed a need to demarcate and categorize the diverse elements of the IP public domain, so as to differentiate and address, for each element, both the threats and the strategies to counter those threats. One size does not fit all parts of what constitutes the public domain in intellectual property. Not only it is protean, encompassing many eclectic elements, but the way each element is put, by the law or by any other way, into the public domain, also underlines different mechanics that are likely to influence both the extent and the shape of the threat occurring to that part of public domain and the search for a possible cure to the ills it is afflicted with. The archaeological mapping can also help break the monolithic nature or vision of the public domain, which tends to blind any analysis to a possible need of different public domains for different publics and demands⁵.

This paper will be organised as follows. Part II will address the metaphor of the public domain, the way it is not only phrased, but also conceived as a default territory, aside from and exterior to the private domain of intellectual property. I will show that this metaphor is not only a language but has inclined to mould the regime of the public domain in a way that obfuscates its very logic, thereby weakening all attempts to preserve it. I will propose to define and describe the public domain beyond that metaphor.

Part III will map the public domain, as it is today in intellectual property, mainly in copyright and patent law. I will draw a categorization of the diverse elements that are said to be publicly accessible to the public. This mapping will also include archaeological traces or remains, for, as to each element thereof, I will stress the operation of making it “fall” into the public

⁵ R. COOMBE, “Fear, Hope, and Longing for the Future of Authorship and a Revitalized Public Domain in Global Regimes of Intellectual Property”, 52 *DePaul L. Rev.*, 1171 (2002-2003).

domain, the process and logic of that “public-domaniality”. That will shed light to the reality of the openness of each category within the public domain and will explain what and where the chinks through which commodification threats have appeared (and will continue to appear), are located .

This paper is limited on several accounts. First, it envisages the public domain only in copyright and patent regimes, not looking into other intellectual property rights. Second it will primarily focus on the European legal framework with some rare incursions in the US system where relevant⁶. Consequently, the vision developed here is rather a Western one, which is not irrelevant when studying the public domain, as will be seen further on. Third, it will not deal with the possibility of free use of intellectual creations that could result from the application of legal doctrines situated outside the intellectual property scheme, such as the competition law or the fundamental rights.

II. THE METAPHOR OF THE PUBLIC DOMAIN

Referring with the terminology of the “public domain” to the mass of elements and objects that are not protected by an intellectual property right, entails to treat such a domain as a monolithic concept. Whatever the diversity of its different parts, their congregation under the reassuring term of a “domain” gathers them under the same roof, within a unique regime, that of the publicity. It also portrays the public domain as a place separated from the intellectual property rights. The private domain of intellectual property, characterized by exclusive rights, monopolies, and authorisation/prohibition schemes, looks as if it was fenced off from the public domain, as if both domains were contiguous, though separate, as if the domain of commoditised and privatised assets faces the domain of freely available resources, with no connection or relation between them. On one side, there would be the perimeter of intellectual property protections, where copyright and patent exclusive rights would be the sole area for commodification process and action, whereas, on the other and opposite side, the public domain, where the unprotected elements or the commons would lie, would be the only place where artistic or scientific creation could take place without infringing the right held by an author or inventor.

This metaphorically-driven vision is both mistaken and fallacious.

It is mistaken to the extent it is inapt to embrace the full reality of the public domain, conceived as freely available resources for intellectual production, as demonstrated by Julie

⁶ Considering also that the US scholarship has been more fertile than the European one on that very topic, most of my bibliography is American. That does not preclude anyway its application to the European public domain, so far as it only deals with the concept of the public domain and not with its regulation in the positive law of copyright and patent.

Cohen in a recent article⁷. In that article, limited to the copyright field, she purports to point out the inconsistency of considering the public domain as a separate place and argues for a new metaphor, that of the cultural landscape. She argues that a spatial conception of public domain influences the design of that domain and the assumptions about what should be publicly available. The fact that the opponents of the increasing encroachment of the public domain, are using the same metaphor that helps the proponents of a rising commodification in intellectual property to deny that threat, makes it impossible to reach an effective solution for the preservation of the public domain. In lieu of the “denotative and connotative meanings”⁸ implied by that geographical metaphor, that justifies indeed the pro-commodificationist view of copyright, J. Cohen proposes to see the commons as a set of cultural and creative practices that would form a better ground to build a strong theory and protective regime of the public domain⁹.

I agree with that reflection and find it also applicable to the field of patent law, where scientific practices could substitute for cultural ones. If the function of the public domain is to enable productive practices, whatever cultural, creative, technical, scientific or purely cognitive or consumptive, and to exempt them from the exercise of an exclusive proprietary right, it should include not only elements in which such rights are inexistent, but also resources or practices that are left untouched by the exercise of those rights. From a sociological point of view, the commons or the public domain should be the field where the public could enter without stepping on the intellectual rights of anyone. Economically speaking, it should cover the assets or uses of such assets for which no transaction could take place. Therefore, I will take seriously the proposition of J. Cohen to locate the public domain within the intellectual property domain as a whole, to include therein not only the unprotected resources but also the “domain of accessible knowledge”¹⁰ that lies within proprietary expression. That will be implemented in the Part II dedicated to the mapping of the public domain.

The definition of the public domain I will choose then is the one devised by two other US scholars, Anupam Chander and Madhavi Sunder, who have defined the public domain as “the resources for which legal rights to access and use for free (or for nominal sums) are held broadly”¹¹. Such a definition rightly encapsulates the public dimension of the resources, the “commons” facet of the public domain, without being poisoned by the spatial metaphor of the public domain. As its authors insightfully assert, “just as property consists in a varying bundle of rights revolving around a central right to exclude, the public domain consists in a varying

⁷ J. COHEN, “Copyright, Commodification, and Culture: Locating the Public Domain”, in B. HUGENHOLTZ & L. GUIBAULT (eds.), *The public domain of information*, Kluwer Law International, forthcoming 2006.

⁸ *ibidem*, p. 3.

⁹ *ibidem*, p. 38.

¹⁰ *ibidem*, p. 40.

¹¹ A. CHANDER & M. SUNDER, “The Romance of the Public Domain”, 92 *Cal. L. Rev.* 1331, (2004), at 1340.

bundle of rights revolving around the right to access and use”¹². Rather than opposing a public and a private domain that would not overlap, such approach reflects the inevitable interlacing and complexity in which exclusivity and commons are situated¹³. It enables to see the public domain *beyond* the metaphor of a domain.

But the domanial metaphor is also fallacious as it pretends to shape the substance of the public domain. On that point, I would diverge from J. Cohen’s thesis. Indeed, she seems to envisage the territorial terminology as being only a metaphor, that does shape the vision of the public domain but not its substance. Paradoxically, she also advocates that a shift of metaphor could shift the way the public domain is assembled and regulated within the IP regime. I do not agree. A new metaphor could well help the proponents of the public domain to better articulate their agenda, but it will not change the substance of the IP public domain, if that substance, and not the metaphor that pretends to reflect that substance, is not properly understood.

The public domain seen as a separate place and the ensuing binary rhetoric of “intellectual property versus the public domain”¹⁴ is the metaphor that hides the real epistemology of the public domain where private and public are much more intertwined. No meaningful discourse or project about the commons or public domain will take place if the real agency and structuring of the public domain are not properly studied and revealed. That spatial metaphor helps justify the increasing enclosure of the public domain, not because it reflects accurately what public domain definitely is but, conversely, because it blinds the proponents of a strong public domain to the actual construct of the public domain that is all but a separate place, unaffected by commodification and privatization.

As it is conceived in copyright and patent law, the public domain does not create at all a separate site immune from any privatisation, as the terminology of the public domain inclines to signify. Few elements of the so-called public domain are completely safe from falling into the realm of intellectual property. When describing the different elements of the public domain, we will see that commodification is equally at work when granting exclusive rights on some intellectual creations *and* when leaving other intellectual productions into what is called the public domain. Contrary to what the binary public/private logic suggests, the public domain often serves the private property¹⁵ and this interdependent relationship is rooted in the history and economics of intellectual property¹⁶.

Without understanding to what extent and how the private and the public are intertwined, any attempts to save the commons from undue appropriation might be doomed. The growing

¹² A. CHANDER & M. SUNDER, *op. cit.*, p. 1339.

¹³ See also, R. COOMBE, *op. cit.*, p. 1186-1191.

¹⁴ A. CHANDER & M. SUNDER, *op. cit.*.

¹⁵ *ibidem*, p. 1352.

¹⁶ C. ROSE, “Romans, Roads, and Romantic Creators: Traditions of Public Property in the Information Age”, 66 *Law & Contemp. Probs.* 89, (2003), at 96.

enclosure of the public domain is not (or rather, not only) coming from an improper expansion of intellectual property but is linked to the very functioning of the system. It is certainly helpful to change the metaphor of the public domain, as J. Cohen proposes, to reintegrate it within the proprietary domain itself, but it is also necessary to change the very epistemology of the public domain if we want to counteract the pervasive diminution of the publicly available intellectual commons. To that end, any attempt to preserve the commons or public domain in intellectual property, should not only aim at putting more works or inventions into the public domain, but more importantly at modifying the sense of that public domain, the way it is made and the functions it holds in the IP regime. It requires to describe the reality of the public domain *behind* the metaphor of a separate and free domain.

The mapping of the public domain to which I turn now will try to integrate both claims (i.e. to consider the public domain beyond and behind the metaphor of a separate domain), on one hand by extending it to what is traditionally seen as public domain, on the other hand, by revealing the logic by which each element is said to belong to the public domain and what link it still keeps with the private realm of intellectual property. In that sense, such mapping might be deemed to have overridden the domain-related metaphor.

III. THE MAPPING OF THE PUBLIC DOMAIN

A. *The distinction between the structural and functional public domain*

Drawing a cartography of the public domain could be said to be the reverse cartography of the private domain that is formed by an IP right. It could consist of establishing a sort of map of what is not protected, of what stands outside of the monopoly granted by the copyright or patent right. However, such a point of departure would too much adhere to the view of the public domain as a separate space, as the negative of the private domain. Conversely, if one takes the perspective of the openness as the essential feature of the public domain, the cartography becomes more complex and intertwines more closely with the mapping of the IP domain. Such a mapping has already been made by P. Samuelson who has distinguished, within the public domain, a “core” consisting of intellectual resources that are protected by intellectual property, as well as a number of “contiguous terrains” and some “murky areas”¹⁷. Amongst those contiguous areas, can be included “some intellectual creations that courts have treated as in the public domain for some, but not all, purposes”¹⁸ (such as assets that are not protected by copyright but could still be protected by trademark), and such things as open source software, fair use and other copyright or patent exceptions. As to the latter, they are

¹⁷ P. SAMUELSON, “Digital Information, Digital Networks, and The Public Domain”, 66 *Law & Contemp. Probs.* 148 (2003).

¹⁸ *ibidem*, at 149.

theoretically not within the public domain, if one defines it solely from the perspective of the absence of an intellectual property right, but they are “seemingly inside in effect”¹⁹.

I will adopt a similarly broad view of the public domain, embracing not only what is not privatised under the intellectual property regime, what is left outside of the copyright or patent ambit, but also, and equally importantly, those resources that might be copyrighted or patented, but that are yet open in the sense that their use is not limited by intellectual property rules. Such resources fit with the definition I have adopted for the public domain, as legal rights to access and use for free to those resources are held broadly. Under that perspective, intellectual resources can enter the public domain in two basic ways which will divide our topography of the public domain in two main categories.

Firstly, a resource is in the public domain because it is not protected by an IP right. Access thereto and use thereof is hence free. This is what I will call the *structural public domain*. It is composed of elements that are by themselves unprotected, whatever the circumstances of their use. That public domain is of free use by nature. That structural public domain is also what is traditionally considered to be the public domain *stricto sensu* in copyright and patent laws. The collective rights of access and use that define it are premised on the absence of an exclusive right thereto. On the face of it, it is the reverse analysis of what is protected by IP, it is what is left over once the existence of an IP right is established.

On the other hand, a resource can be said to participate to the function or objective of the public domain because the use thereof is free in some circumstances. The openness is not then linked to the resource itself but is circumstantial. This is what I will call the *functional public domain*. It serves the same purpose as the structural public domain to the extent that the access thereto and use thereof is available and open to anyone (or in some cases, only to some). Rights of access and use are caused by the limitations of the exclusive rights vested in such resources. It has gained a similar status than the public domain *stricto sensu* in the recent copyright literature. The functional public domain is opposed to the exercise of copyright or patent power, not to its existence: it is what remains out of the scope of the exercise of such rights. In economic terms, both types of public domains have the same result, meaning that no transaction could take place based on a legally-conferred exclusivity²⁰.

I will turn now to the exploration of both continents of the public domain.

B. The structural public domain

An intellectual resource belongs to the structural public domain when no intellectual property right is vested in it, in other words when no individual can claim an exclusivity over it. It

¹⁹ *Ibidem*.

²⁰ Which does not mean that a transaction cannot take place on the basis of another type of exclusivity such as a trade secret or the possibility to technically or contractually control the access to a resource.

encompasses the resources that are not protected by an intellectual property right due to the definition of the subject-matter of such right (that I will call the ontological public domain), the resources that are excluded from the scope of protection (the policy public domain), the works and inventions whose term of protection has expired (the temporal public domain), as well as the works and inventions for which the author or inventor has decided not to claim any IP right (the intentional public domain).

1. The ontological public domain

a) The composition of the ontological public domain

Each regime of intellectual property, be it copyright, related rights, patent, breeder's rights, design rights or trademark, delineates its own territories, its boundaries, by laying down what is not eligible for the protection it confers. A primary banishment from the perimeter of the protection flows from the very nature of the IP system, which explains the appellation of *ontological public domain*. The resource might be not even considered as a work or an invention, thereby not being eligible for protection.

In copyright, the idea/expression dichotomy will work as a first exclusionary principle. Only the expression is protected by the literary and artistic property rules, the idea is said to be free for everybody to use. Works are expressions and embodiments of ideas, facts, principles, methods. Actually, the idea/expression dichotomy is what constitutes the notion of the work²¹, even prior that the questions of what is a literary and artistic work, or of what is an original work, occur.

The TRIPS Agreement expressly states that copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such (art. 9(2)) of the TRIPS. The article 2(8) of the Berne Convention adds that copyright “shall not apply to news of the day or to miscellaneous facts having the character of mere items of press information”.

Ideas, facts, style, methods, intrigue, mere information, concepts, are thus ontologically into the public domain.

As a second step, copyright law does only welcome in its ambit works that are considered as original, even though that notion is rather loosely defined. It is rare that the law defines the notion of originality, save for some national laws or for some categories of works²². In the

²¹ V.L. BENABOU, “Pourquoi une œuvre de l'esprit est immatérielle”, *Revue Lamy Droit de l'Immatériel*, Janvier 2005, p. 53.

²² Originality is defined by the European directives on computer programs, on databases, and by the European directive on the term of copyright protection, as to photographs. For those works, the definition of originality is thus identical in all Member States.

European Union, the originality has been defined for software, databases and photographs, as “the author’s own intellectual creation”.

In patent law, conversely, the idea itself is protected by the patent once granted: the inventor has an exclusivity over the use of that idea or process for whatever purpose. The idea/expression dichotomy is thus irrelevant here and does not define the notion of invention. The operative principle for defining what is an invention in patent law is the technical character which draws a clear (or maybe not so clear, as we will see) line between the discovery, that can not be patented, and the invention that is eligible for patent protection. A discovery as such has no technical effect. It can be a substance or material found in nature or a new property of a known material. It is only when that new substance or that new property can be put to practical use, that this use, or rather the technical solution that such use brings to a technical problem, can be considered as an invention to be protected by a patent. This apparently clear-cut line between the discovery and the invention is also conveyed in one of the criteria to be filled in when applying for a patent, that of the industrial application or utility²³.

The invention is thus defined, and distinguished from the mere discovery, by its "technical character", which means that it belongs to a technical field and provides for a solution to a technical problem, solution that has technical features for which the patent protection is sought. Consequently, abstract things (such as scientific theories and mathematical methods, schemes, rules and methods for performing mental acts, playing games or doing business) and non-technical creations (such as aesthetic creations and presentations of information) are generally not regarded as inventions (see article 52 of the Europe Patent Convention) and are beyond the private domain of patentability. Computer software is generally included in that broad category of non-technical inventions (that latter term being a tautology in itself).

The lack of a technical character also explains that, according to the biotechnology directive (recital 22), a mere DNA sequence without indication of a function is not a patentable invention²⁴.

Another criteria for patentability is that of the newness of the invention. An inventor can benefit from a patent only where she has invented something new as regards to the state of the (technical) art. It mirrors the standard of originality found in copyright law, in the way it requires some added feature than the mere human intervention, a sort of quality of the latter.

²³ W. CORNISH, *Intellectual property : omnipresent, distracting, irrelevant?*, Oxford / New York, Oxford University Press, 2004, p. 8.

²⁴ Another way to construe it is to state that this invention is not susceptible of industrial application. It is more correct to consider that a DNA sequence whose function is not specified remains in the field of the mere discoveries.

b) The construction of the ontological public domain

In both regimes, copyright and patent, one can say that the criteria for protection is the presence of a human intervention, whether in the form of the requirement for original expression or for a technical character. The parallel with the traditional opposition between nature and culture is striking. Intellectual property is the protection of culture, of what is done by human beings, whereas the nature is left unprotected²⁵, therefore into the public domain. The intellectual property regimes are the legal shaping of what is produced by Man. Copyright protects the production of the *homo poïetes*, whereas patent protects the production of the *homo faber*²⁶. In both cases, the culture is seen as triggering the legal mechanism of protection, leaving the nature, at least when it is untouched by human intervention, in the fuzzy realm of the public domain.

The traditional philosophical justifications of intellectual property are particularly illustrative of that narrative. The Lockean labour theory of property, which is often used to justify the grant of a copyright or patent right, akin to a property right, to works or inventions resulting from an intellectual labour²⁷, establish a clear link between the dichotomy IP/public domain and that of the culture/nature. The idea of Locke according to which the mixture of nature and labour of an human being always produces property, is clearly stated in the following famous proviso: “Whatsoever then a man removes out of the State that Nature hath provided, and left in, he hath mixed his Labour with, and joined to it something that is his own, and thereby makes it his Property”²⁸. Similarly, the Hegelian theory that justifies the granting of a right over an object to an individual who puts her will into that object, echoes the cultural production of the human beings as a ineluctable starting point for (intellectual property) private property.

It is also worth noting that this vision does not put on an equal basis the nature/public domain and the culture/intellectual property couples. The Locke principle of property is rooted in the principle that any resource is free for every man to appropriate through his labour, while the Hegelian vision is premised on the idea of a public domain ready to be owned by any “willing” individual. Both theories, at best, consider the nature, or the public domain for that matter, as a private property to be. In other words, the public domain is not equal to the

²⁵ The identity between nature and discovery, hence their inherent unpatentability, is well understood in patent law. As to copyright, case law has regularly stated that things existing in nature far not protected by copyright (see, for instance, Brussels, 7 December 2001, *Auteurs & Medias*, 2002, p. 153, denying the copyright protection to a colour, since it exists in the nature). Such a principle has also raised some difficulties or questions concerning the copyrightability of some artistic productions in contemporary art, such as the ready-mades, or the works of land art.

²⁶ GIORGIO AGAMBEN, *The Man Without Content*, Stanford University Press, 1999.

²⁷ On the influence of Locke’s theory upon the early copyright laws, see S. DUSOLIER, *Droit d’auteur et protection des oeuvres dans l’univers numérique – Droits et exceptions à la lumière des dispositifs de verrouillage des œuvres*, Bruxelles, Larcier, 2005, n° 276.

²⁸ JOHN LOCKE, *An Essay Concerning the True original, Extent, and End of Civil Government, in Two Treatises of Government*, Ch. V, 27 (Peter Laslett ed., 1988).

private domain of intellectual property, which is another evidence of the fallacy of the public domain metaphor, depicting it as a separate place from intellectual property territory. The superiority of the culture over the nature²⁹ is a very modern and Western idea, that has its consequences on the IP regime and on the place occupied by the public domain therein.

In copyright, the originality criteria is generally conceived as the mark of the authorship which “credits the author with bringing something wholly new into the world”³⁰. The trigger for protection is thus highly subjective while being very minimal as originality has been construed to encompass any intellectual involvement, any stamp of personality imposed upon nature³¹. As to patent law, the technical feature that defines the patentable invention is also loosely defined, save for excluding aesthetical products and abstract matter³². Generally, it is conceived as implying an intellectual intervention that is not of an artistic or literary nature.

As the opposition between nature and culture has evolved along the history in the direction of an on-going prevalence of culture over nature and of the on-going diminution of the borders of the untamed nature, the IP regime has been accommodated to welcome new grabs of nature by the human hand.

Related rights have been added to copyright, moving the protection of creation to the mere investment. Particularly in patent, the boundary between invention and discovery has been blurred to a dangerous point. In order to be able to grant patent monopoly to biotechnological inventions, the lawmaker has resorted to the criteria of isolation which enables to claim a patent for biological material (thus for nature itself), including parts of the human body, as soon as it can be isolated from its natural environment. The European directive on biotechnology states that “biological material which is isolated from its natural environment or produced by means of a technical process may be the subject of an invention even if it previously occurred in nature” (article 3 (2)). Leaving aside the controversial discussions about the patentability of life and living organisms and elements thereof, such a criteria conveniently blurs the border between the nature and culture, expressing that any human intervention interfering with things existing in nature is sufficient to place them in the domain of culture, that law can then privatize through intellectual property. This pattern for thinking the IP regime clearly underlines the well-known article 27 of the TRIPS agreement that states that “patent should be available in all fields of technology”, meaning that patent should be ready to encapsulate any human agency upon the nature.

²⁹ A.-C. RENOARD, *Traité des droits d'auteurs dans la littérature, les sciences et les beaux-arts*, Paris, Jules Renouard et Cie, 1838, Tome I, p. 441, “Que l’intelligence ait empire sur les choses, que l’homme soit le maître légitime de la nature inintelligente livrée à lui pour le servir, c’est là une vérité trop évidente pour n’être pas incontestée.”

³⁰ J. LITMAN, *op. cit.*, p. 967.

³¹ B. EDELMAN, “The Law’s Eye: Nature and Copyright”, in B. SHERMAN & A. STROWEL, *Of Authors and Origins*, Clarendon Press Oxford, 1995, p. 83.

³² See EPO Guidelines, 2005, Chapter IV, Part C, point 2.

The superiority of the human labour over the ability of the nature is strongly underlined by the biotechnology directive that states, in one recital, that the isolation of biological material merits the reward of a patent since it is a technique “which human beings alone are capable of putting into practice and which nature is incapable of accomplishing by itself”³³. One could also say, more modestly, that the biotechnological procedures only “replicate, under laboratory conditions, the extraordinary chemistry by which humans function”³⁴, but that would be at odds with our intellectual property system that had as an objective, in the Enlightenment period in which it was created, to accomplish the consecration of the author and inventor³⁵, seen as the individual creative genius, and the ideology of the progress as the changing and positive force of the society.

In economic terms, the need for a legal protection of all cultural productions, created from the natural resources is also mirrored in the ongoing claim for a legal protection for new commodities appearing and having a value on the market. M.-A. Hermitte has once explained that all the expansion of intellectual property over new resources can be explained by this market demand, which ultimately distorts the traditional categories of intellectual property³⁶. One has witnessed such a market-justified demand, and often a corresponding opening of new avenues, within IP regimes, to protect resources with a novel market value, such as in the case of databases (where copyright has been accommodated to cover mere collections of facts), of the patentability of software (euphemistically called computer-implemented inventions) or business methods (where patent would now cover mere abstract productions), or of the *sui generis* protection for plant varieties. In each of those cases, as in many others, the paradigms of patent or copyright law, have been mended to welcome such commodities³⁷ and grant them, through the benefit of an IP right, a reinforced access to the market³⁸. The relationship between the market and the intellectual property is a troubled one. It is difficult to answer the question as to whether it is the existence of an IP right that creates a market or, on the contrary, whether it is the emergence of a market that begs for the creation of a corresponding IP right. As with the story of the chicken and the egg, it surely is a bit of both.

³³ Recital 21 of the biotechnology directive. See also M.-A. HERMITTE, “Bioéthique et brevets dans le droit du commerce international”, *forthcoming* in S. MALJEAN-DUBOIS (ed.), --- ?, 2005, p. 34.

³⁴ W. CORNISH, *op. cit.*, p. 20.

³⁵ M.-A. HERMITTE, *op. cit.*, p. 32 ; B. EDELMAN, *Le sacre de l'auteur*, Paris, Seuil, 2004; A. CHANDER & M. SUNDER, *op. cit.*, p. 1340.

³⁶ M.-A. HERMITTE, “Le rôle des concepts mous dans les techniques de déjuridicisation. L'exemple des droits intellectuels”, in *Archives de philosophie du droit*, 1985, p. 331-349.

³⁷ R. COOMBE, *op. cit.*, p. 1173 (“Too much of what we now protect under the guise of authorship is not creativity or innovation, but merely investment”).

³⁸ W. GROSHEIDE, “Paradigms in Copyright Law”, in B. SHERMAN & A. STROWEL (eds.), *Authors and Origins – Essays on Copyright Law*, Clarendon Oxford Press, 1995, p. 222; J. REICHMAN, “Legal Hybrids between the Patent and Copyright Paradigms”, *Columbia Law Review* 2432 (1994).

This underlying paradigm of IP, modelled on the modernist dichotomy of Nature/Culture³⁹, explains that the boundaries of that ontological public domain will be dynamic in essence, that they will depend of the conception our society has of the human agency. Since it is currently conceived as unlimited in the field of intellectual and technical production, the public domain does not constitute a very definite territory. As the dichotomy between nature/culture is blurring and more and more contested, by the extent of the technology itself (namely biotechnology) and by post-modern ideas about knowledge, the IP domain is potentially without limits, and the traditional boundaries that help constitute a public domain are vanishing.

Besides, the definition of the public domain, resulting from the definition of the protected subject-matter of IP, whether it flows from the needs of the market or from the philosophical conception of what is human creation/invention and of the nature/culture dichotomy, is a Western idea. Therefore, the depiction of the public domain as an open territory, free for others to take, devoid of any idea of property or undue privatisation, as a global commons, beneficial to the informational, cultural or technological needs of the world, is somewhat a naïve perspective. There is as much of a commoditised view of intellectual production in the notion of the public domain than in the notion of the private domain of intellectual property. The evolution of the intellectual property regime shows that the public domain is not as much as an open territory from which some limited lands are grabbed to form islands of exclusivity than a way to allocate rights of access to intellectual resources, whether in the form of exclusive property or in the form of non-exclusive liberties. One example illustrates that view. Traditional knowledge (except where traditional knowledge is subject to customary laws granting other forms of ownership and rights) has some difficulty to enjoy intellectual property rights, since it is generally not new but ancient, not individual but collective, not completely technical but largely mixed with nature. Public domain has always been the repository of the traditional knowledge and folklore in the classical views of intellectual property, which facilitates its exploitation and appropriation by industrials⁴⁰. It shows that the (now global) regime of intellectual property denies the exclusivity to other forms of intellectual production, knowledge or cultural expression, not to promote a vibrant cultural,

³⁹ While the opposition between nature and culture has been increasingly dismissed by scientists, anthropologists and philosophers, one wonders why it is still so pregnant in the legal system to the point of being one of the foundational paradigm of the intellectual property regime. See, for instance, D. HARAWAY, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_Oncomouse™:Feminism and technoscience*, London, Routledge, p. 60-94.

⁴⁰ T. COTTIER & M. PANIZZON ? « Legal perspectives on traditional knowledge : The case for intellectual property protection », in K. MASKUS & J. REICHMAN (eds.), *International public goods and the transfer of technology under a globalized intellectual property regime*, Cambridge University Press, 2005, p. 570 ; R. COOMBE, "Protecting cultural industries to promote cultural diversity: Dilemmas for international policymaking posed by the recognition of traditional knowledge", in K. MASKUS & J. REICHMAN (eds.), *International public goods...*, *op. cit.*, p. 602-604 ; A. CHANDER & M. SUNDER, *op. cit.*; CARLOS M. CORREA, *Traditional knowledge and intellectual property – Issues and options surrounding the protection of traditional knowledge*, 2001.

scientific and knowledge public domain, but to empower western entrepreneurs to benefit from monopolies based on such primary materials, which they do not own originally⁴¹.

As far as the ontological public domain is concerned, I hope I succeeded in demonstrating that its principle is not, as the metaphor of the public domain could make believe, to create a preserve for some intellectual creations and to make it public by immunise it from any attempts of appropriation. It is rather to make some resources available for human agency leading to commodification.

2. *Policy public domain*

a) The composition of the policy public domain

Public domain is also enriched by elements that are explicitly excluded from the field of protection. Those exclusions do not result from the paradigm of the IP protection as adhering to the nature/culture dichotomy; they concern intellectual creations that could a priori apply for the protection granted by copyright or patent, that could be works or inventions, but that the lawmaker has decided to render ineligible for copyrightability or patentability for reasons of protection of the public or general interest. Such exclusions constitute what I will call the *policy public domain*.

In copyright, one traditional, and somewhat isolated, exclusion from protection, save for the United Kingdom, relates to official texts of a legislative, administrative and legal nature, as well as to the official translations of such texts, as enabled by the article 2 (4) of the Berne Convention.

In patent law, exclusions are more diverse and have been recently specified, if not expanded, by the European directive on the protection of biotechnological inventions. Traditionally, diagnostic, therapeutic and surgical methods for the treatment of humans or animals (as allowed by the article 27(3) of the TRIPS Agreement, see also article 52 (4) of the European Patent Convention) are excluded from the patentability, as are plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes (see article 27(3) of the TRIPS Agreement and article 53(b) of the EPC). The latter follows the line of the distinction between the patentable invention and the unpatentable discovery as far as plants and animals are concerned, but appears to derogate thereto as far as micro-organisms are concerned. On the other hand, it is a somewhat misleading exclusion since the TRIPS Agreement imposes to provide for the protection of plant varieties either by patent and/or by a *sui generis* system, as the plant varieties protection applied in the European Union. Furthermore, the exclusion does not apply when the technical feasibility of the invention is not confined to a particular plant or animal variety. Therefore, one could not conclude that plants and animals always belong to

⁴¹ A. CHANDER & M. SUNDER, *op. cit.*, at 1355.

the public domain. Actually, that rule only precludes patentability to some extent.

Another typical exclusion covers inventions whose commercial exploitation would be considered to be contrary to *ordre public* or morality, as it is stated by the article 27,2° of the TRIPS Agreement, in the article 53 (a) of the EPC, and in the article 6 of the directive 98/44 on the legal protection of biotechnological inventions⁴². The TRIPS Agreement adds that the necessity to protect *ordre public* or morality can include the protection of human, animal or plant life or health and the avoidance of serious prejudice to the environment. According to the EPO guidelines, a patent should not be granted to an invention if “it is probable that the public in general would regard the invention as so abhorrent that the grant of patent rights would be inconceivable”. In addition to public order and morality, the concept of “human dignity” has entered into the field of unpatentability through one recital of the biotechnology directive (see recital 38). It remains to be seen what the actual application of such a notion in the field of patent law could be and how it could be differentiated from the public order or morality ones.

Recent exclusions stem from ethical concerns related to biotechnology and illustrate, in the field of biotechnology, the concerns raised by ethics or *ordre public*. The EU directive on the legal protection of biotechnological inventions and the European Patent Convention exclude from patentability, namely on the basis of the general rule of public order:

- the processes for cloning human beings;
- the processes for modifying the germ line genetic identity of human beings;
- the uses of human embryos for industrial or commercial purposes;
- the processes for modifying the genetic identity of animals which are likely to cause them suffering without any substantial medical benefit to man or animal, and also animals resulting from such processes.
- the human body, at the various stages of its formation and development, and the simple discovery of one of its elements, including the sequence or partial sequence of a gene.
- the processes to produce chimeras from cells of humans and animals⁴³ (see the recital 38 of the biotechnology directive, according to which such an exclusion is rooted in the need to protect human dignity).

⁴² It should be noted that such an exclusion for contradiction to *ordre public* or morality does not apply in copyright. A work can be protected even though it is against morality or public order (see Corr. Anvers, 25 March 2002, concerning pornographic movies).

⁴³ The interest of such exclusion based on *ordre public* that do not exist under the US patent law have been particularly demonstrated when an US researcher has applied for an US patent for an invention leading to the creation of a chimera half human half non-human primate. The patent has been refused on other grounds.

b) The construction of the policy public domain

As the very notion of the public policy and public interest varies from one country to another, it is not surprising that the exclusions from the copyright or patent protection equally differ. Particularly in patent law, where the ethical concerns might be of paramount importance for some inventions, the political choices determining the excluded subject-matter will largely depend from the culture and the technological development of the country⁴⁴. It is only with the biotechnology directive that a first harmonisation of what should form the core of the ordre public in biotechnological matters, has been launched and a minimal list of exclusions has been provided. But that does not prevent the Member States to exclude other types of inventions.

Such exclusions are also very evolutionary as they depend from the state of notions of morality and ordre public, or include notions that can be open to various interpretations. For instance, the issue of the patentability of stem cells has showed that the definition of what constitutes a human embryo, whose patentability is excluded by the biotechnology directive, is not fixed, which makes the exclusion of embryos from patentability, an uncertain and variable one. Another example is the former exclusion of pharmaceutical products that used to exist in some countries, mainly for public policy motives aiming at preserving the viability of the health system, but had been construed increasingly strictly to accommodate the claims of a demanding industry⁴⁵. What subsists of that rule today is the limited exclusion of methods for treatment of humans and animals.

The accommodating mould of such exclusions, that is the notion of the ordre public, will certainly lead to new forms of exclusion. For instance, the Gene Terminator, and other technologies generally known as genetic use restriction technologies (GURTs)⁴⁶ that allow seeds to be genetically programmed not to germinate, has been recently barred from patentability in India. Many countries envisage also excluding stem cells from patentability or sanctioning the default of disclosing the origin of the biological resources included in inventions by declaring the latter as contrary to public order, hence unpatentable.

Another feature of those exclusions from IP protection is that they since they are generally restrictively construed. As a rule, they will be ineligible from the protection “as such”, which has allowed many times the protection of derived products, sometimes very close to the excluded matter.

The variable and restrictive nature of the exclusions indicate that the part of the public domain they build is not as separate as the private domain of IP. The possible links and transfers between both are numerous and complex. Furthermore, and particularly in the case of ordre public in patent law, the process of exclusion often aims not at making publicly available an

⁴⁴ M.-A. HERMITTE, “Bioéthique et brevets dans le droit du commerce international”, *op. cit.*, p. 17.

⁴⁵ W. CORNISH, *op. cit.*, p. 10-14.

⁴⁶ On that issue, see DAN L. BURK, “DNA rules : Legal and conceptual implications of biological ‘lock-out’ systems”, 92 *Calif. L. Rev.* 1553 (2004).

invention, but as barring altogether its free use or exploitation. In that case the logic behind that part of the public domain is not that of a commons nor of giving collective rights of use.

3. *The temporal public domain*

a) The composition of the temporal public domain

An essential feature in intellectual property, save for trademarks, geographical indications and the *sui generis* right conferred to databases, is its limitation in time. After a determined period of time has elapsed, the work or invention is said to fall into the public domain. The length of that period has varied in the history of intellectual property and differs from one country to another.

In copyright, the minimum duration for countries adhering to the Berne Convention or to the TRIPS Agreement is 50 years after the death of the author. In the European Union, that duration has been fixed to 70 years after the death of the author and some specific rules have been laid down to calculate that term for peculiar works (e.g., joint works, anonymous or pseudonymous works, audiovisual works, ...). The term for copyright protection is thus harmonised throughout the EU even though some questions remain as to the continued application of some national rules granting an extended term of protection to works, due to the interruption of their exploitation during war times⁴⁷.

In Italy, a levy is perceived on profits resulting from performances of public domain plays and from sales of public domain literary works. This system is called the “public domain payant” and purports to fund cultural activities or social benefits for artists. This does not however diminish the open access and use of such public domain works, as it consists only of a collection of a regulatory nature.

Patent rights are granted for 20 years after the filing date. In some countries, that duration is reduced when the due tax has not been paid. Such duration can be extended to 25 years for pharmaceutical products by virtue of the European Regulation 1768/92 of June 13th, 1992, to compensate for the period during which the patent has already been filed but the effective exploitation of the medicine has to wait for an administrative authorisation to be granted.

b) The construction of the temporal public domain

At its origin, the limitation of the intellectual property in time was really to constitute a public domain where contents could be used freely by the members of the public. It aimed at achieving a balance between the proprietary protection and the public availability, thus creating two separate domains, constituted by the passing of time. Public domain was also recognised as being the principle and the IP right the exception.

⁴⁷ See the Belgian Law of the 25 June 1921 and the articles L. 123-8 and L. 123-9 of the French CPI.

This is particularly relevant in copyright where history shows that the erection of a private property was only a limited intrusion in the public domain, that should stay the rule. J. Ginsburg has namely shown that this predominance of the public domain was present both in the early regimes of literary and artistic property both in France and in the United States⁴⁸. In 1774, in *Donaldson v. Beckett*⁴⁹, that was one of the seminal cases in copyright in UK, the Court of Lords voted in favour of the principle that copyright should be limited in time, insisting on the public interest of preserving the public domain as the rule. That original trade-off was in phase with the public domain metaphor.

At first sight, the temporal public domain seems to form in an automatic way: once a certain period of time has passed, the work or invention falls into the public domain. The use of the verb “to fall” sounds as if it conveys the systematic operation of an immanent rule. However, this duration has not always been that static. It is particularly true for copyright where the term for protection has been successively extended, as it has been in almost all national regimes.

Many reasons have been invoked to justify that repeated extension, some are related to the protection of the creators and their heirs and their participation to the benefits of the exploitation of the works but most of the times, the demand for an extended protection comes from the industry, hence from the market, that would like to enjoy a unlimited monopoly over some works and invention.

It can be illustrated by the US Copyright Extension Act of 1998 (known also as the Sony Bono Act), that extended the term of protection of copyrighted works to 70 years after the author’s death, as in Europe, and to 95 years from publication or 120 years from creation, when the duration cannot be calculated from the date of death of the author, such as in works-made for hire or anonymous works. This extension has been challenged before the Supreme Court on the basis of its unconstitutionality, the US Constitution providing that the Congress has the power to “to promote the Progress of Science and useful Arts, by securing *for limited Times* to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”. In *Eldred v. Ashcroft*⁵⁰, the Supreme Court upheld the law: a Limited Time was thus not considered as a short time but only as a non Unlimited Time. The difference is not as subtle as it appears to be.

Rather than adhering to a view of the term of protection that would draw a clear line between the protected works and the public domain as in *Donaldson v. Beckett*, the Supreme Court has admitted that the duration of copyright can be regularly extended as soon as the Congress could proffer a rational basis for that extension. Economical needs are then approved to be a

⁴⁸ J. GINSBURG, “A Tale of two Copyrights: Literary Property in Revolutionary France and America”, in B. SHERMAN & A. STROWEL (eds.), *Authors and Origins – Essays on Copyright Law*, Clarendon Oxford Press, 1995, p. 145.

⁴⁹ 1 Eng. Rep. 837 (H.L. 1774).

⁵⁰ 537 U.S. 186 (2003).

particularly strong motive for extending the protection. Delivering the opinion of the court, Justice Ginsburg reminds that the task of defining the scope of the limited copyright monopoly, assigned to the Congress, aims at giving the public appropriate access to the works, hence at constituting an effective public domain of literary and artistic works. However, in the notion of an appropriate access to copyrighted works, Justice Ginsburg enshrines also, and primarily, the need for an appropriate protection of the work and of the copyright holders. The work can be left for the public domain, and hence for a free access thereto by the public, only where the necessary life of copyright is over, whereas what defines the extent of that necessary duration is a matter for Congress. According to Justice Ginsburg, the key factor that incited the US Congress to grant this new extension was the EU directive of 1993 harmonising the copyright duration to life-plus-70-years and the rule of reciprocity it contained, that had as a consequence that US works enjoyed only a 50-years term in the European Union. As it was the case in Europe at the time of the adoption of the 1993 duration directive, the argument of the increased human longevity was equally raised: copyright should benefit to the author and to two successive generation of heirs, which, for demographic reasons, is not perfectly achieved with a 50-years rule. But what really counts as the “necessary life of copyright” is the productive life of works, the period of time during which they are valuable on the market. That implies that the public domain, once constituted by the rule of the term of protection, is not immutable, or rather that the public domain does not take its definitive consistence once for all. To put it simply, we do not know now when existing works will fall in the public domain, we only know that all works will be eventually. Here again, it is difficult to argue that public domain, so constructed, is a clearly separate place from intellectual property sphere. This argument also derogates to the vision of the public domain as a necessary counterpart of the grant of an IP right.

Such a reasoning both admits the artificial construct of the temporal public domain and allows for rightholders to engage in rent-seeking. European related right owners have already taken the pretext of the US extension of the copyright term for musical works to require a similar extension for related rights in music, grounding their demand on the same argument that has convinced the US Congress and Supreme Court, that of the uneven competition between the EU and the United States⁵¹.

The insistence on the economic life of works as a touchstone for deciding the adequate duration of copyright can also be found in an article by William Landes and Richard Posner⁵², written in the course of the *Eldred v. Ashcroft* case. Based on an economic analysis of the commercial exploitation of copyrighted works, they propose a system of a copyright that would be indefinitely renewable. The first duration of the protection would be very short but

⁵¹ Their argument is particularly ill-founded and too much far-reaching: the 95-years term of protection for musical works in the US applies to *copyright* in sound recordings and not to a *related right* in music productions, as in Europe. The confusion comes from the fact that such a term applies to sound recordings whose copyright holder is most often the producer of the music.

⁵² W. LANDES & R. POSNER, “Indefinitely renewable copyright”, 70 *U. Chi. L. Rev.* 471 (2003)

it could be renewed an unlimited number of times. That would not mean that the protection would be rendered perpetual since most of copyrights might not be renewed, making works falling into the public domain maybe more rapidly than under the current system. Whatsoever, the consequence of such a system is that the bigger the commercial interest in a work, the longer the copyright duration should be, hence rendering the costs of renewal minimal compared to the expected benefits. Landes and Posner argue that it is not as much the duration of the right that matters, but above all the formalities to expand this duration, and that reintroducing a renewal formality could ultimately make the public domain grow⁵³.

Under that rhetoric, the public domain is reduced to be the garbage of valueless (at least in economic terms) works. This reasoning does not derogate however to a commoditised view of the construction of public domain (hereby aligning itself with the *Eldred* opinion⁵⁴): under the system proposed, only the valueless works will fall under the public domain, whereas the works with the more value might be exclusively owned forever. It might even be worse than the current system: where authorship is no more the line dividing protection/unprotection but the economic value is, the copyright regime will only be shaped by the market's demands and the public domain will only be for market failures that do not require to be cured. It has gone a long way from the vision of the temporal public domain as the predominant principle.

4. *The intentional public domain*

a) The composition of the intentional public domain

Public domain can also welcome works or inventions who could be protected by an exclusive right but that are not through the will of the author or the inventor. The source of the public domain in that case is the will of the person who could have pretended to claim the right: it can be called the *intentional public domain*.

In copyright law, where the protection is granted by the creation itself and does not require the compliance of any formalities, as imposed by the Berne Convention and TRIPS Agreement, the occurrences of an intentional public domain are scarce. On the one hand, some works can be in the public domain due to the absence of renewal of copyright protection where and when such formality of renewal was still in force. For instance, the copyright registration of many films or musical works in the United States, has not been renewed, prior to the 1976 Copyright Act that abandons such formality. Such works are thus in the public domain through forfeiture even though it might be that their author is still alive or has been

⁵³ *ibidem*, p. 480.

⁵⁴ The only difference between the vision of the Supreme Court and that of Landes and Posner is that in the former, there is an equality between all works, that is induced by the demands of some for a continuing commercial life, while, for Landes and Posner, the world they propose is an elitist one.

dead for less than 70 years or, in the case of works made for hire, the work has been published less than 95 years ago or created less than 120 years ago.

On the other hand, one has witnessed recently initiatives, running parallel to or being inside the copyleft movement⁵⁵, that advocate the relinquishment of works into the public domain. For example, the Creative Commons initiative has drafted a license that purports to dedicate the work to the public domain, which means that the author of such works abandons all her rights therein. The validity of such an unilateral act forfeiting copyright in an eligible literary or artistic work is still controversial, specially in regimes where copyright is considered as a fundamental right. Should we assume that such a renunciation to copyright is legally valid, the concerned works will join the other elements of the public domain.

In patent law, inventions will follow that road when the inventor simply decides not to apply for a patent, not to pay the related tax or has published the result of her research, annihilating thereby the newness of her invention and making it improper for a patent claim. The owner of a patent can also decide, as in copyright, to give up her right and leave her invention into the public domain.

That part of the public domain can also be enriched by contents on which no restrictive access conditions apply, as in the case of databases of cDNA sequencing that have been set up in the last years by many biotechnology industries or actors. Such database in itself is sometimes protected by the national IP laws, and contents of such databases are sometimes filed for patent. However, those databases have increasingly been put into the public domain and made freely available to all.

b) The construction of the intentional public domain

Relinquishment of works/inventions into the public domain is most of the times motivated by unselfishness or generosity (or negligence if the falling into the public domain results from an unwittingly publication of the invention) of the right owner (or eligible one). The resulting perimeter of the public domain is thus forged by individuals who, for many reasons, decide not to claim exclusivity in their works and inventions but to make them freely available to the public.

It is a sort of reconstruction of a structural public domain that will give rise to that bundle of rights of access and use that are held broadly, to resume the definition of the public domain I have adopted. The spatial metaphor is here completely satisfied since there is generally no desire to take back such work or invention, deliberately made public, if one suppose that such a reverse decision could be legally valid.

⁵⁵ On the copyleft movement, see *infra*.

That congruence with the metaphor of the public domain, to the contrary of other parts of public domain, can be explained by the fact that such an intentional public domain partakes to the strategy to safeguard and foster an effective pool of commons in intellectual property.

It can also be a strategy, as in the case of the cDNA sequencing databases where, originally, giving free information to scientists could either undermine competing proprietary databases or make easier secondary research from which proprietary benefits could then be reaped. However, current major cDNA databases are now all into the public domain due to a demand from the scientific community not to impede the course of the research by restraining access to that core material.

C. The functional public domain

Copyright and patent laws allows a free use of the protected work or invention in some circumstances. Traditionally, such exemptions from the exclusivity given by the monopoly have not been treated as public domain. However, the functional effect of such exemptions is somewhat similar to the free use of the materials belonging to the public domain, as it enables the free/open use of intellectual products.

As said earlier, one could include such functional public domain into the larger domain for open content, as the public domain in intellectual property could be roughly defined, in the sense that it encompasses a bundle of rights of access and use intellectual creations or inventions. The key differentiating factor between the *structural* public domain and the *functional* one is the fact that, as to the former, the openness or freedom of use operates in the existence/inexistence of right whereas, as to the latter, it operates at the level of the exercise of the copyright or patent exclusivity⁵⁶.

An almost similar categorisation than the one we used for the structural public domain can be applied to the functional public domain.

1. The cognitive public domain

a) The composition of the cognitive public domain

What I call the *cognitive public domain* is the possibility to intellectually enjoy the content of a work or of an invention, to have knowledge of its meaning and content. To the extent any member of the public can get access to that knowledge, at least legally since practical or

⁵⁶ I should add here that, when talking of free use or access to works, I mean only the use or access that has been rendered so by the law or by the author by virtue of the exercise of the IP right. It does not comprise any other way of constraining material access to a work or invention, whether by a contract (exceeding what IP enables to do) or by a technical lock-up device.

technical hurdles can constrain or limit such access, and has a right to enjoy it, it is part of the public domain.

In patent law, even though the subject-matter of the patent is the idea and technical concept itself, such information is available to all for public knowledge, through the requirement of disclosure that is the *quo* of the *quid* of the patent protection. That does not mean that the public has a right to use such invention, since the scope of the patent covers any type of use. But, the public can know what the invention is about, what technical solution it brings to a particular problem, and in what sense it adds something new to the scientific state of the art.

In copyright law, such a free enjoyment of works is induced by the limited set of rights afforded to the copyright owner. The exclusivity given by the copyright only entails the control of acts of public exploitation of works, which covers the reproduction of the work (but only when the resulting copy can be perceived by a public and thus be the stage for a public exploitation), the communication to the public, the public distribution and other public acts of diffusion of the work such as rental or lending. Acts of mere reading, viewing, listening or enjoying a work are not deemed to be infringement of copyright. The natural scope of copyright is rather to control the public diffusion of the work to a public⁵⁷. One can translate this idea by saying that the center of attention for copyright is the *exploitation* of a work, where exploitation is defined as public diffusion. Copyright has never been about regulating *access* to or *use* of works. Material access to works is made possible and regulated either by the property right in the original embodiment of the work, or by entering into a contract with a distributor to get a material copy of the work. Conversely, the intellectual use of a copyrighted creation is fundamentally free (which not means it is materially available to all), which make such use enter into the realm of the public domain, as I have defined it.

b) The construction of the cognitive public domain

The cognitive free use can be said to form the inherent foundation of the public domain as well as the permanent one. It certainly is the instance where the trade-off argument that justifies the erection of a public domain alongside the privatized intellectual domain, is more valid and undisputable. It also forcefully denies the separation between what is protected and what is “free as the air to common use” to use a famous expression⁵⁸ and their location in two distinct places. The free intellectual enjoyment of works and inventions does not occur outside of the realm of intellectual property, but happens at the very core of IP regimes.

That said, some evolutions of the IP system threaten that crucial idea of the free intellectual consumption. Copyright, due to the contaminant introduction of software within its ranks, has been gradually extended to the mere use of the work, first through specific rules for software and databases, and eventually in relation to any type of work, through the protection of

⁵⁷ This argument is more thoroughly addressed in S. DUSOLIER, *op. cit.*, n^{os} 419 et seq.

⁵⁸ *International News Service v. Associated Press*, 248 U.S. 215,(1918) at 250 (Brandeis, J., dissenting).

technological measure inhibiting and controlling the very use of works⁵⁹. The content of the work, in the case of the software, is not even available for intellectual knowledge. The disclosure of the source code of the software is not even certain when the software is part of a patented invention.

The copyright law has approved this extension over the mere use and enjoyment of the work, by making inviolable a technological measure that prevents any use of work, thus confirming the legitimacy of the control of any use within the copyright's circle and by making the access to the content of the software dependant upon the sole (market) need for interoperability, in the frame of an exception, to be strictly construed.

That shows, once again, that the forces of the market can forge another concept of public domain, where what was initially inherently free is now shifting to the perimeter of the monopoly. Since the free enjoyment of works was not formally separated from the intellectual property rights, it was all the more easy to hinder it.

2. The public domain of exceptions

a) The composition of the public domain of exceptions

Free use of copyrighted works or patented inventions is permitted through the existence of an exception or exemption from the protection or in the form of a compulsory license. They are too diverse and numerous to be able to list all of them here but all of them have been introduced into the copyright and patent laws to curtail the monopoly of the right owner when a public interest is at stake.

In copyright, exceptions range from use of the work for private purposes, quotation, parody, research and teaching, archival and preservation by libraries, benefit of handicapped people, public lending, etc. The European directive on copyright in the information society of 2001 has listed 23 cases of permitted exceptions. The Berne Convention also allows for the developing countries to translate works for educational purposes under a compulsory license.

In patent law, classical exceptions allow the use of the patented invention for private purpose and for experimental research purpose. A more recent exception, resulting from the expansion of patent and to the creation of plant varieties protection, entitles the farmers to use the seeds of patented or protected plants to sow their fields.

Compulsory licenses can also be granted when the invention has not been exploited for a determined period of time. In the case of the so-called dependant patent, i.e. when the exploitation of an invention could not occur without infringing the patent in a prior invention, a license can be given when the second invention has a significant economic importance. A last case, to which a great publicity was given in the last years, concerns the pharmaceuticals

⁵⁹See S. DUSOLIER, *op. cit.*, n^{os} 678 et seq.

products which, in case of a national health emergency, can be manufactured under the authorisation of a compulsory license.

Finally, both copyright and patent laws, as any IP rights, apply the doctrine of the exhaustion meaning that the redistribution of products covered by an IP right and put into the market with the consent of the rightowner is freely allowed. That limitation of the intellectual property monopoly is justified under the objective to protect the free movement of goods.

All those exceptions to copyright and patent law are generally submitted to some conditions and are not open to all users to the same extent. In that sense, the free use of the work or invention can be said to be of a relative nature.

b) The construction of the public domain of exceptions

The exceptions in copyright and patent laws are a fine example of the public domain embedded in the proprietary regime itself. However, the lack of separation between exceptions available to the public to use the work or the invention and the private domain formed by the exclusive rights makes uncertain the status of copyright and patent exceptions, particularly when the exercise of the exclusive right is seconded by a constraining technological measure or contract.

The question of this status has been central in the recent years in copyright, where it has evolved from a mere market failure or tolerance, to a more positive role. Considering copyright exceptions as market failure leaves them in the default territory eligible for commodification. That threat seems to have been perceived by recent case law that tries both to prohibit the contracting out of copyright exceptions⁶⁰ and to allow their exercise albeit the presence of a technical lock-up⁶¹.

The role of patent exceptions has not been the object of the same scrutiny so far, which seems surprising as the practice of licensing is no less pervasive than in copyright. The only difference maybe is that the copyright licenses, due to the development of the Internet, are more and more mass licenses, where users have lost all negotiation capability, which is not the case in the field of patent.

Another point to be made is similar to what I have said for the policy public domain. First, the exceptions are extremely variable in time and in place. They strongly depend of the policy choices, of the culture, of the economic situation and of the practices of cultural consumption,

⁶⁰ *Ibidem*, n°614 et seq.; L. GUIBAULT, *Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright*, The Hague, London, Boston : Kluwer Law International, 2002, *passim*. See also the article 23bis of the Belgian law that makes mandatory and imperative the exceptions to copyright.

⁶¹ Court of Appeal, Paris, 22 April 2005, *R.D.T.I.*, October 2005, n°23, p. 71. That safeguarding of the exceptions against a technical lock has been promoted by the European directive on copyright in the information society, even though that solution remains incomplete and not so much in favour of the users of copyrighted works. On that point, see S. DUSOLIER, *op. cit.*, n°203 et seq.

of each country that enacts them, and of the time in which they are enacted. Secondly, they are generally strictly construed, hence they constitute a bundle of rights with blurry borders.

3. *The copyleft public domain*

a) The composition of the copyleft public domain

Unhappy with the extension of intellectual property, some authors, inventors and users of works and inventions have set up alternative regimes for exercising copyright or patent rights. The first and most known is the open source software movement that was born in the 80's to counteract the proprietary exercise of copyright in software, considered as many as excessive and far-fetched and at odds with the needs of the community of software developers and users. Many licenses have been developed whose common features are to give some basic freedoms to the licensees, such as the right to reproduce, communicate or distribute the work to the public for free and to oblige the licensor to provide the source code of the program. An important feature of such licenses is to impose on licensees to distribute the work or derivative works based on it under the same copyleft system, which prohibits a return to a proprietary system. This has been dubbed the viral effect of the copyleft or open source movement, in the sense that the “free” distribution of works spreads itself epidemically along the chain of diffusion and modification of the primary work.

That first idea inspired and gave its name to a larger movement: the copyleft. That name could not better express the idea of an opposition to copyright, where left, in the sense of given up or left over, means the opposite of the right, while conveying equally a political stance (left indicating a progressive vision of the copyright world, compared to the “right-wing” and conservative position of the proprietary copyright). In the copyleft world applied to other works than software, a predominant player is the Creative Commons initiative that has developed and put on the Internet a whole set of licenses enabling authors to distribute their work under generous but varied terms⁶². Creative Commons gives a choice to the author between different licenses that grant diverse rights to the user. When deciding to accompany her work with a Creative Commons license, the author can choose whether she will allow the work to be modified by the user, whether she wants the freedom of use to be limited to non-commercial purposes, and whether she wants to oblige the user to grant the same freedom of use when the latter modifies the work and publicly communicate that derivative work. In all cases, the attribution of the work to its author should be made when disseminating it.

Open source and copyleft principles have even worked their way up to the patent environment⁶³. Some biotechnology projects have tried to apply the principles of the free sharing and collective production that have been promoted by the open source software, to the

⁶² See <http://creativecommons.org>.

⁶³ S. BOETTIGER & D. BURK, “Open source patenting”, *Journal of International Biotechnology Law*, Nov/Déc. 2004, p. 221.

results of biotechnological research. For instance, the BIOS project⁶⁴ (Biological Innovation for Open Society) makes publicly available tools for biological research under a license similar to open source licenses in software. The license imposes that improvements are shared, and that licensees do not appropriate the fundamental "kernel" of the technology and improvements. Licensees must also agree not to prevent other licensees from using the technology in the development of different products.

Software, works or inventions distributed to the public under an open source or copyleft licensing regime are often said not to be in the public domain. This is true if one limits the public domain to the structural and traditional public domain. All licenses specifically provides that the work or invention remains protected by a copyright or patent and that only some uses are expressly granted by the author or inventor. Nevertheless, copylefted works and inventions, since they allow a free use of any member of the public⁶⁵ are liable to enter into the functional public domain.

b) The construction of the copyleft public domain

The copyleft is not the radical way out of the private domain of intellectual property, as it was sometimes said. Exclusive rights subsist to the work or invention licensed under copyleft, but the rights of access and use of the content are created within the exclusive monopoly and given to a large public. That is a sort of public domain, born from and in the monopoly itself.

The copyleft is also part of the strategy to enhance access to commons or to the public domain and its free use. However, contrary to the intentional public domain, when the purpose is to locate the work or invention completely outside of the realm of the property, the copylefted works or inventions are still proprietary. Both in copyright or patent fields, the copyleft enables to create a sphere of free use without giving up the exclusivity one owns in intellectual creation. Consequently, it prevents other persons to appropriate that creation and make it their own. In that sense it thwarts any attempts of commodification that often threatens elements put in the public domain.

⁶⁴ See <http://www.bios.net>.

⁶⁵ That would not be true for some Creative Commons licenses where the use is limited to non-commercial purposes.

The mapping of the public domain

	Copyright Law	Patent Law
Structural Public domain	Idea/expression dichotomy: Ideas, methods, rules, principles, style, facts, information, etc. Non original works	Discoveries (absence of technical character) No industrial application Inventions not new
<i>Ontological public domain</i>		
<i>Policy public domain</i>	Official texts	Diagnostic, therapeutic and surgical methods Plants and animals other than micro-organisms Ordre public, morality and human dignity, incl.: - cloning human beings; - modifying the genetic identity of human beings; - uses of human embryos for industrial or commercial purposes; - modifying the genetic identity of animals. - the human body. - the processes to produce human or animal chimeras.
<i>Temporal public domain</i>	70 years after the death of the author	20 years after filing for patent (25 years possibly)
<i>Intentional public domain</i>	Works relinquished into the public domain	Absence of patent application or of payment of the patent tax Published inventions Inventions relinquished into the public domain
Functional public domain		
<i>Cognitive public domain</i>	Intellectual use and enjoyment of works	Disclosed information

<i>Public domain of exceptions</i>	Private use Quotation Parody Educational uses Library privileges Exhaustion Etc.	Private use Experimental use Farmer's privilege Dependant patent Health urgency Exhaustion
<i>Copyleft public domain</i>	Open source software Creative commons and other pen license	Open source patent

IV. CONCLUSION

The mapping of the public domain reveals the diversity of its elements and the way it has been structured in the regime of intellectual property.

It demonstrates that, when defined as the bundle of rights that entitles the public to have a free access and use to intellectual production, the public domain stands in complete opposition to the narrative and metaphor that has been developed in intellectual property and still influences the reflection about it.

On one hand, it is not a domain, on the proper sense of that term, since its many parts are located everywhere in the realm of the intellectual property, and not gathered in a separate and contiguous place.

On the other hand, its public character should be somewhat qualified, to the extent that the history and evolution of what constitutes the public domain shows that the role it assumes in intellectual property is rather the role of a default territory, whose chunks of which are continuously eligible for commodification. As it stands today in copyright and patent law, the public domain does not know any significant barriers to commodification, which renders its "publicity" dubious and fragile.

In order to have an effective public domain in intellectual property, i.e. to preserve it as a cultural and scientific heritage to be collectively and commonly held and enjoyed, not only the metaphor used to describe it, should be modified, but the many paradigms of intellectual property that lead to reduce it to a default territory, with no positive and effective status, should be further assessed.

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